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EXAMINER

OSMAN, RAMY M

ART UNIT	PAPER NUMBER
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2157

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/975,590

Applicant(s)

JACOBS ET AL.

Examiner

Ramy M Osman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 37 objected to.

A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

A claim which depends from a dependent claim should not be separated by any claim which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n).

Claim 37 depends on dependent claim 10, and is separated by independent claims 19-21 and 31-35.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claims 31-33, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-41 rejected under 35 U.S.C. 102(e) as being anticipated by Saether et al (US Patent No 6,405,219).**

5. As to claim 1, Saether teaches a method for replicating data from a master server to a slave server over a network, the method comprising the steps of:

 sending a packet of information from the master server to the slave server, the information relating to a change in the data stored on the master server and containing a version number for the present state of the data (see figs 1,3a and 5a, column 1 lines 50-67 and column 4 lines 40-67, Saether disclose source files with current version being copied from global server to content server);

 allowing the slave server to determine whether the data on the slave server has been updated to correspond to the version number contained in the packet (column 1 lines 50-67 and column 7 lines 7-40, Saether disclose updating content server by the current version of source files);

 requesting a delta be sent from the master server to the slave server if the data on the slave server does not correspond to the version number contained in the packet, the delta containing information needed to update the slave server (See figs 1,3a and 5a, column 1 lines

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50-67 and column 4 lines 40-67, Saether disclose global server archived object associated with files in content server required to upgrade the pervious version in the content server).

6. As to claim 2, Saether teaches a method according to claim 1, further comprising: storing an original copy of the data on the master server(see figs 1,3a and 5a, column 1 lines 50-67 and column 4 lines 40-67, Saether disclose storing source file in global server).

7. As to claim 3, Saether teaches a method according to claim 1, further comprising: persistently caching the data on a local disk for each slave server (see figs 1,3a and 5a, column 1 lines 50-67 and column 4 lines 40-67, Saether disclose storing source file in content server directory).

8. As to claim 4, Saether method according to claim 1, further comprising: determining a unique version number for the current state of the data on the master server if the data has changed (column 1 lines 50-67 and column 4 lines 40-67)

9. As claim 5, Saether teaches a method for replicating data from a master server to a slave server over a network, the method comprising the steps of: sending a version number from the master server to the slave server, the version number relating to the present state of the data stored on the master server (column 1 lines 50-67 and column 4 lines 40-67, Saether disclose source files with current version are copied from global server to content server); allowing the slave server to determine whether the slave server has been updated to reflect the present state of the data corresponding to the version number sent from the master server (see figs 1,3a and 5a, column 1 lines 50-67 and column 7 lines 7-40, Saether disclose updating content server by the current version of source files); and requesting a delta be sent from the master server to the slave server if the slave server does not correspond to the version number sent by the master, the delta

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containing information needed to update the slave server (column 1 lines 50-67 and column 4 lines 40-67) Saether disclose global server archived object associated with files in content server required to upgrade the pervious version in the content server)

10. As to claim 6, Saether teaches a method according to claim 5, further comprising: sending the delta from the master server to the slave server. (See figs 1,3a and 5a, column 9 lines 10-35 Saether disclose global server sending data to content server).

11. As to claim 7, Saether a method according to claim 5, further comprising: committing the delta to the slave server. (See figs 1,3a and 5a, column 9 lines 10-35, Saether disclose that sending data to content server).

12. As to claim 8, Saether teaches a method according to claim 5, further comprising: updating the version number of the slave server after committing the delta.(See figs 1,3a and 5a, column 9 lines 10-35 Saether disclose updating the version content in content server).

13. As to claim 9, Saether teaches a method according to claim 5, further comprising: periodically sending the version number from the master server to a slave server (column 9 lines 10-35, Saether disclose global server sending messages and updating the version content in content server).

14. As to claim 10, Saether teaches a method according to claim 5, further comprising: sending the version number to a slave server until the slave server acknowledges receipt of the version number (column 4 line 55 – column 5 line 42, Saether disclose content server generating current version update to global server).

15. As to claim 11, Saether teaches a method according to claim 5, further comprising:

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including data with the version number that is necessary to update a slave server (See figs 1,3a and 5a, column 4 line 55 – column 5 line 42, Saether disclose indicating particular version updating source files on content server);

16. As to claim 12, Saether teaches a method according to claim 11, further comprising: committing the data necessary to update the slave server as soon as it is received (column 4 lines 40-67, Saether disclose particular versions updating a source files on content server).

17. As to claim 13, Saether teaches a method according to claim 5, further comprising: determining the scope of the delta before sending it from the master server (See figs 1,3a and 5a, column 4 line 55 – column 5 line 42, Saether disclose determining update source files on content server).

18. As to claim 14, Saether teaches a method for replicating data over a network including a master server and at least one slave server, the method comprising the steps of: sending a packet of information from a master server to each slave server on the network, the Information relating to a change in the data stored on the master server and containing a current version number for the present state of the data, the information further relating to previous changes in the data and a version number for each previous change(see column 1 lines 50-67 and column 4 lines 40-67, Saether disclose source files with current version are copied from global server to content server); allowing each slave server to determine whether the slave server has been updated to correspond to the current version number (column 4 lines 40-67, Saether disclose particular versions updating a source files on content server); allowing each slave server to commit the information if the slave server has not missed a previous change; (column 4 line 55 – column 5 line 42, Saether disclose particular versions updating a source files on content server) and

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allowing each slave server having missed a previous change to request that previous change be sent from the master server to the slave server before the slave server commits the packet of information.

19. As to claim 15, Saether teaches a according to claim 14, further comprising: committing the packet of information to a slave server (See figs 1,3a and 5a, column 9 lines 10-35, Saether disclose sending data to content server).

20. As to claim 16, Saether teaches a method according to claim 14, further comprising: aborting the commit of the packet of information if a slave server cannot commit the update (column 6 lines 20-50, Saether teaches content server communicating with global server which inherently aborts communication if a content server cannot respond).

21. As to claim 17, Saether teaches a method according to claim 14, further comprising: determining the scope of the delta before sending it from the master server (column 4 lines 40-67, Saether disclose global server determining set of source files creating a new directory content server);

22. As to claim 18, Saether teaches a method according to claim 14, further comprising: including the scope of each the previous changes in the delta. (column 4 lines 40-67, Saether disclose determining previous set of source files on content server).

23. As to claim 19, Saether teaches a method for replicating data over a network including a master server and at least one slave server, the method comprising the steps of: sending a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a prior version number for the prior state and a new version number for the new state of the data, the information further

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relating to previous changes in the data and a previous version number for each previous change (see figs 1,3a and 5a, column 4 line 55 – column 5 line 42, Saether disclose source files with current version are copied from global server to content server updating the pervious version set of files); allowing each slave server to determine whether the data on the slave server corresponds to the prior version number contained in the packet (see figs 1,3a and 5a, column 1 lines 50-67 and column 4 lines 40-67, Saether disclose determined update content server by remaining the current version of source files) allowing each slave server to commit the packet of information if the data on the slave server corresponds to the prior version number contained in the packet, the commit also updating the version of the slave server to the new version number (column 4 line 55 – column 5 line 42, Saether disclose determine update source files on content server). and allowing each slave server not corresponding to the prior version number to request that a delta be sent from the master server containing the information necessary to update the slave to the prior version number before the slave server commits the packet of information (column 4 lines 40-67, Saether- disclose rollback pervious version source files in content server with current version and copied source files from global server to updating the set of files).

24. As to claim 20, Saether teaches method for replicating data over a network including a master server and at least one slave server, the method comprising the steps of: sending a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a version number for the prior state and a version number for the new state of the data, the information further relating to previous changes in the data and a version number for each previous change (see figs 1,3a and 5a, column 1 lines 50-67 and column 4 lines 40-67, Saether disclose source files with current

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version are copied from global server to content server updating the pervious version set of files); allowing each slave server to determine whether the data on the slave server corresponds to the prior version number contained in the packet (see figs 1,3a and 5a, column 1 lines 50-67 and column 4 lines 40-67, Saether disclose determined update content server by remaining the current version of source files) allowing each slave server to commit the packet of information if the data on the slave server corresponds to the prior version number contained in the packet, the commit also updating the version of the slave server to the new version number (column 4 lines 40-67, Saether disclose determine update source files on content server); allowing each slave server not corresponding to the prior version number to request that a delta be sent from the master server containing the information necessary to update the slave to the new version number (column 1 lines 50-67 and column 4 lines 40-67, Saether disclose rollback pervious version source files in content server with current version and copied source files from global server to updating the set of files);

25. As to claim 21, Saether teaches method for replicating data from a master server to at least one slave server over a network, the method comprising the steps of: sending a packet of information from the master server to a slave server, the information relating to a change in the data stored on the master server and containing a version number for the present state of the data; receiving the packet of information to a slave server (column 1 lines 50-67 and column 4 lines 40-67, Saether disclose source files with current version are copied from global server to content server); allowing the slave server to determine whether the slave server has been updated to correspond to the version number contained in the packet, and to further determine whether the slave server can process the packet of information if needed to update to correspond to the

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version number contained in the packet; sending a signal from the slave server to the master server, the signal indicating whether the slave server needs to be updated and whether the slave server can process the update(column 9 lines 40-67 and column 10 lines 1-20, Saether disclose global server send a message content server to process the update source files with current version); and sending a response signal from the master server to the slave server indicating whether the slave server should commit to the information contained in the packet; and committing the packet of information to the slave server if so indicated by the response signal.

26. As to claims 22, Saether teaches method according to claim 21, further comprising: determining whether each of the at least one slave server can commit the data. (column 9 lines 10-35, Saether disclose sending data to content server);

27. As to claim 23, Saether teaches method according to claim 21, further comprising: determining whether each of the at least one slave server has sent a response back to the master server (column 6 lines 20-50, Saether teaches content server communicating with global server).

28. As to claim 24, Saether teaches method according to claim 21, further comprising: determining whether any of the at least one slave server can commit the data (column 6 lines 20-50, Saether teaches content server communicating with global server).

29. As to claim 25, Saether teaches method according to claim 21, further comprising: committing the data only if each of the at least one slave server can process the commit (column 6 lines 20-50, Saether teaches content server committing communicating with global server).

30. As to claim 26, Saether teaches method according to claim 21, further comprising: aborting the data only if any of the at least one slave server cannot process the commit (column 6

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lines 20-50, Saether teaches content server communicating with global server which inherently aborts communication if a content server cannot respond).

31. As to claim 27, Saether teaches method according to claim 21, further comprising: committing the data to those slaves that are able to process the commit (column 6 lines 20-50, Saether teaches content server communicating with global server).

32. As to claim 28, method according to claim 21, further comprising: multicasting the update to any of the at least one slave server that were not able to process the commit (column 1 lines 50-67, column 9 lines 40-67 and column 10 lines 1-20, Saethers teaches updating to content servers).

33. As to claim 29, Saether teaches method according to claim 21, further comprising: heart beating the new version number to any of the at least one slave server that were not able to process the commit (column 6 lines 20-50, Saether teaches communicating new version number).

34. As to claim 30, Saether teaches method according to claim 21, further comprising: requesting a delta be sent to a slave server that was not able to process the commit (column 6 lines 20-50, Saether teaches communicating new version number).

35. As to claims 31,38,39 and 40, Saether teaches a method, a computer readable medium, a computer program product, and a system respectively, for replicating data over a network, the method comprising the steps of:

(a) determining whether the replication should be accomplished in a one or two phase method (see figs 1,3a and 5a, column 1 lines 50-67 and column 4 lines 40-67, Saether disclose determined update content server by remaining the current version of source files);

(b) sending replication information determined to be accomplished in a one phase method by:

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sending a packet of information from the master server to the slave server, the information relating to a change in the data stored on the master server and containing a version number for the present state of the data; receiving the packet of information to a slave server; allowing the slave server to determine whether the data on the slave server has been updated to correspond to the version number; and requesting a delta be sent from the master server to the slave server if the slave server does not correspond to the version number, the delta containing information needed to update the slave server (column 1 lines 50-67 and column 4 lines 40-67, Saether disclose global server archived object associated with sourer filed in content server required to up grade the pervious version in content server);

(c) sending replication information determined to be accomplished in a two phase method by: sending a packet of information from the master server to the slave server, the information relating to a change in the data stored on the master server and containing a version number for the present state of the data; allowing the slave server to determine whether the slave server has been updated to correspond to the version number, and to further determine whether the slave server can process the packet of information; sending a signal from the slave server to the master server indicating whether the slave server needs to be updated and whether the slave server can process the packet of information; sending a response signal from the master server to the slave server indicating whether the slave server should commit to the packet of information; and committing the packet of information to the slave server if so indicated by the response signal (column 1 lines 50-67 and column 4 line 55 – column 5 line 42, Saether disclose updating content server by the current version of source files)..

36. As to claims 32 and 41, Saether teaches method and system respectively for replicating data over a network, the method comprising the steps of:

(a) determining whether the replication should be accomplished in a one or two phase method (see figs 1,3a and 5a, column 1 lines 50-67 and column 4 lines 40-67, Saether disclose source files with current version being copied from global server to content server);

(b) sending data to be replicated in a one phase method by: sending a version number for the current state of the data from a master server to a slave server; requesting a delta be sent from the master server to the slave server if the data on the slave server does not correspond to the version number (column 1 lines 50-67 and column 4 lines 40-67, Saether disclose updating content server by the current version of source files); and (c) sending data to be replicated in a two phase method by: sending a packet of information from the master server to a slave server; determining whether the slave server can process the packet of information; and committing the packet of information to the slave server if the slave server can process the packet of information (see figs 1,3a and 5a, column 1 lines 50-67 and column 4 line 55 – column 5 line 42, Saether disclose global server archived object associated with files in content server required to upgrade the previous version in the content server).

37. As to claim 33, Saether teaches method for replicating data from a master to a plurality of slaves on a network, the method comprising the steps of: (a) determining whether replication should be accomplished in a one or two phase method (see figs 1,3a and 5a, column 1 lines 50-67 and column 4 lines 40-67, Saether disclose determined update content server by remaining the current version of source files); (b) sending data to be replicated in a one phase method by: sending a version number for the current state of the data from the master to each slave; and

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requesting a delta be sent from the master to each slave containing data that does not correspond to the version number (column 1 lines 50-67 and column 4 lines 40-67, Saether disclose global server archived object associated with files in content server required to upgrade the pervious version in the content server);

(c) sending data to be replicated in a two phase method by: sending a packet of information from the master to each slave; and committing the packet of information to the slaves if each of the plurality of slaves can process the packet of information (column 1 lines 50-67 and column 4 line 55 – column 5 line 42, Saether disclose updating content server by the current version of source files).

38. As to claim34, Saethers teaches method for replicating data from a master to a plurality of slaves on a network using one and two phase methods, the method comprising the steps of:

(a) sending data to be replicated in a one phase method by sending a version number for the current state of the data from the master to each slave so that each slave may request a delta to be sent from the master to the slave to update the data on the slave (see figs 1,3a and 5a, page 1, column 1 lines 50-67 and column 4 lines 40-67, Saether disclose updating content server by the current version of source files and (b) sending data to be replicated in a two phase method by sending a packet of information from the master to each slave, the packet of information to be committed by each slave if every slave is able to commit the packet of information number (column 1 lines 50-67 and column 4 line 55 – column 5 line 42, Saether disclose global server archived object associated with files in content server required to upgrade the pervious version in the content server).

39. As to claim 35, Saether teaches method for replicating data on a clustered network using one and two phase methods, each network cluster containing a cluster master and at least one cluster slave, the method comprising the steps of:

(a) sending data to be replicated in a one phase method by sending a version number for the current state of the data from a first cluster master to all other cluster masters so the other cluster masters may each request a delta (see figs 1,3a and 5a, column 1 lines 50-67 and column 4 lines 40-67, Saether disclose determined update content server by remaining the current version of source files); and

(b) sending data to be replicated in a two phase method by sending a packet of information from the first cluster master to each other cluster master, the packet of information to be committed by the other cluster masters if the other cluster masters are able to commit the packet of information number (column 1 lines 50-67 and column 4 line 55 – column 5 line 42, Saether disclose global server archived object associated with files in content server required to upgrade the pervious version in the content server).

40. As to claim 36, Saether teaches Saether teaches method according to claim 35, further comprising:

sending the data from each cluster master to each cluster slave in the cluster with that cluster master by a one-phase method (column 9 lines 10-35, Saether disclose that sending data to content server).


41. As to claim 37, method according to claim 10, further comprising: sending the data from each cluster master to each cluster slave in the cluster with that cluster master by a two-phase method (column 9 lines 10-35, Saether disclose that sending data to content server).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramy M Osman whose telephone number is (571) 272-4008. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RMO
February 17, 2005



SALEH NAJJAR
PRIMARY EXAMINER